

## Mobile Money

A partnership with the JV team that created and operated M-PESA

# About the team

- The team that created and ran M-PESA.
- m- Banco the JV for North and Latin America
  - From Sagentia (Innovation, technology, operations ...)
  - From Safaricom (Agent Management & Customer Care)
- We learnt a huge amount in creating the market
  - This is *embedded* in our technology, our processes and our people
- The only proven combination of
  - the right technology,
  - the right processes, and
  - the right people

A red speech bubble with a black outline and a tail pointing towards the top-left, containing the text "Please help, they've started throwing bricks!".

“Please help,  
they’ve started  
throwing bricks!”

# Our role in M-PESA

- 2005 pilot for MFI in Kenya
  - Design, implement, deploy & host
  - Train, roll out and run
- 2006 prepare launch service for P2P
  - Refine business proposition & reconfigure platform
  - Define, train and refine business processes
  - Implement business workflows
  - Scale up hosted launch platform (in London)
  - Establish end to end managed service, operations and processes
- 2007 and on launch service
  - Target 300,000 in year 1, deliver 2 million
  - Run technical operations, deliver audits & support local business teams
  - Drive further innovations such as Pay Bill, ATM services and international remittances



# M-PESA is the dominant success story ...



- Within 1 year, 20% of Safaricom subscribers were registered
  - And over 10% of all Kenyan's had sent or received money on M-PESA
  - The fastest growing service of any type on any mobile network
- By year 3 (spring 2010)
  - Reported 20% of Kenyan GDP
  - > 9.5 million registered, half all adults
  - > 50% of all money transfers
  - Est. 5 million transactions per day
  - Earning more revenues than SMS
- Changing lives & reducing fraud
  - Stabilising rural prices
  - Reducing “graft” and fraud
- Widely used for disbursements
  - Micro-finance and Salary payments in Afghanistan
  - Concern Worldwide aid payments after the Kenya election violence
  - Fast moving entrants in financial services (Equity bank in Kenya)



# Sending money

- Go to the menu on your phone and enter
  - Recipients phone number
  - The amount to send
  - Your personal PIN
- The application encrypts the request into a binary SMS
  - The PIN is not stored locally
- Accounting Service receives SMS
  - Decrypts it
  - Checks you have the money both to send and to pay for the sending
  - Checks all business rules set up around the transaction request
  - Moves the money to the recipients account & pays the charge
  - Sends an SMS to both parties to confirm the transaction

**To: 0724123123**  
**Amount: 1500 KSH**  
**PIN: \*\*\*\***



# Withdrawing money

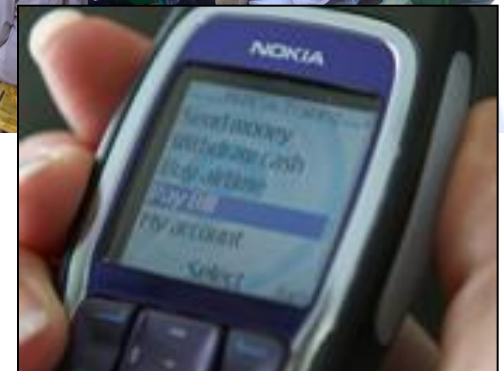
- You get an SMS
  - Saying you have money
- If you are registered
  - it remains in your account as long as you wish
- If you are not yet registered
  - you get a unique voucher
- You go to an Agent
  - An airtime dealer, or local shop, post office etc
  - They have mobile payment phones
    - *The same app as the customers, but with their own “Agent” menus*
    - Allowing them to take deposits and you to withdraw





# Registering for the service

- To send as well as receive ...
  - You need to register
  - You need a UI to the service:
    - Java, USSD, Formatted SMS, Sim Toolkit, IVR, Web, ...
- The Agent takes your details
  - Confirms your identity
  - Registers your number
- You receive an SMS Start PIN
  - You activate your account
  - The service personalises your menu
    - With your services & menus
    - In your language
  - You may start to use the service immediately
- The Service is Pay as You Go





# How M-PESA Works



AVAILABLE HERE



Register  
**FREE**  
at any Authorised  
M-PESA Agent\*



## Send pesa by phone

M-PESA is the new, easy and affordable way to send money home.

\* Please see following advertisement for a list of Authorised M-PESA Agents.



www.safaricom.co.ke  
Terms & Conditions Apply



# How is the mobile payment platform run



- A fully managed service and technology
  - Deployment, integration, upgrades and enhancements
  - Technology and equipment hosted, managed and supported
  - Back-office business processes and reporting are closely supported
- Business is run by the Money Transfer Organisation
  - Typically a local operating company, with key stakeholders including at least one MNO, at least one Bank, m-banco Mobile
  - Tasked with running the Mobile Money Business Unit:
    - Agents
    - Customer Care
    - Finance
- Underwritten by a conventional bank account
  - A single “pooled” account similar to PayPal
  - Money Transfer Platform has full accounting records of money ownership
- The m-banco JV team have direct operational experience
  - Having deployed, hosted & run M-PESA on Vodafone’s behalf



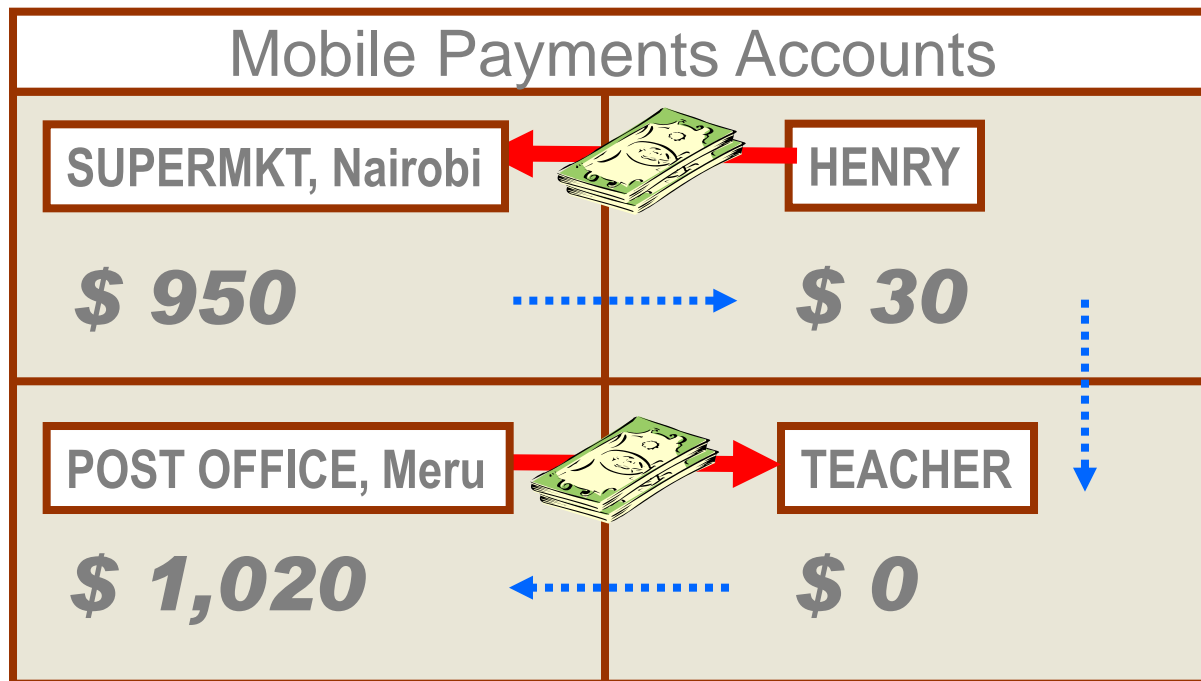
# How the money moves ...

- Supermarket and Post Office sign up as Agents
  - They buy “float” of \$1,000 each for their stores
  - This money is deposited in a commercial bank account
- Total amount of money in the bank account is \$2,000

Mobile Payments Accounts	
<div>SUPERMKT, Nairobi</div> <div><b>\$ 1,000</b></div>	
<div>POST OFFICE, Meru</div> <div><b>\$ 1,000</b></div>	

# How the money moves ...

- Henry deposits \$50 at Supermarket (Agent) in Nairobi
- Henry then sends \$20 using phone menu to school Teacher
- School Teacher withdraws \$20 from Post Office (Agent) in Meru
- Total amount of money within payments system is still \$2000



# How it is paid for ...

- The Agents have “Float” accounts
- The subscribers have “mobile money” accounts
- Agents also have Commission accounts
  - That collect commissions for each transaction

\$950

\$30

\$0

Mobile Payments Accounts			
SUPERMKT, Nairobi		HENRY	
\$950	\$0	\$30	
POST OFFICE, Meru		TEACHER	
\$1,020	\$0	\$0	



# How it is paid for ...

- The Supermarket gets paid to take the deposit
- Henry doesn't pay to deposit, but does to send
- The Teacher typically pays to withdraw
- The Post Office gets paid to do the withdrawal

Mobile Payments Accounts			
SUPERMKT, Nairobi		HENRY	
\$950	\$0.08	\$29.0	
POST OFFICE, Meru		TEACHER	
\$1,020	\$0.08	\$0	

# How it is paid for ...

- The mobile payments service retains the difference

- Paying costs of SMS traffic
- Running the business & service operations
- Making a profit

\$0.84

- All the money in the system resides in a bank

- Where Agents deposit and withdraw
- To maintain Float, and realise commission

Bank Account  
\$2000

- The bank account may then earn significant interest
  - With relatively few bank level transactions and charges

# Identity to Service, the next generation ...

- Identity to Service (I2S)
  - m-Banco's Secure Mobile Data Service Platform
  - Payments, micro-finance and branchless banking
  - as well as trade, health, government and education services to rural and low income communities
- Built on the expertise behind M-PESA
  - A proven, highly flexible and scalable platform for secure mobile transaction services
  - Easier, faster & cheaper to deploy & run
  - Designed to deliver modular vertical solutions
    - Data transactions as well as payments
  - Multi-tier KYC & identity management
  - Broader user interface channels



# Active Market ...

## MERCHANTS

Buy Goods

## CORPORATE

Bill Payments  
... Salaries  
... Dividends

## PERSONAL PAYMENTS

Payments  
Remittances  
Agents  
Airtime  
ATM

## FINANCIAL INSTITUTIONS

Savings  
Insurance  
Loan Payments  
Field Officers

## GOVERNMENT

.... Benefits

## NGO

Ad Hoc Aid





# Our Market Opportunity ...



**wider reach and deeper services**

## **MERCHANTS**

Buy Goods  
Internet Payment  
m-Commerce  
Cash-on-delivery  
Distributors  
Resellers  
Shops  
Cash Management  
Mobile POS

## **CORPORATE**

Salaries  
Pensions  
Dividends  
Bill Payments  
Incentives  
Reminders

## **PERSONAL PAYMENTS**

Payments  
Remittances  
Agents  
Airtime  
ATM  
Dependents  
m-Commerce  
Escrow  
Self-Help Schemes

## **FINANCIAL INSTITUTIONS**

Accounts  
Savings  
Loans  
Investments  
Insurance  
Disbursements  
Field Officers  
Groups

## **GOVERNMENT**

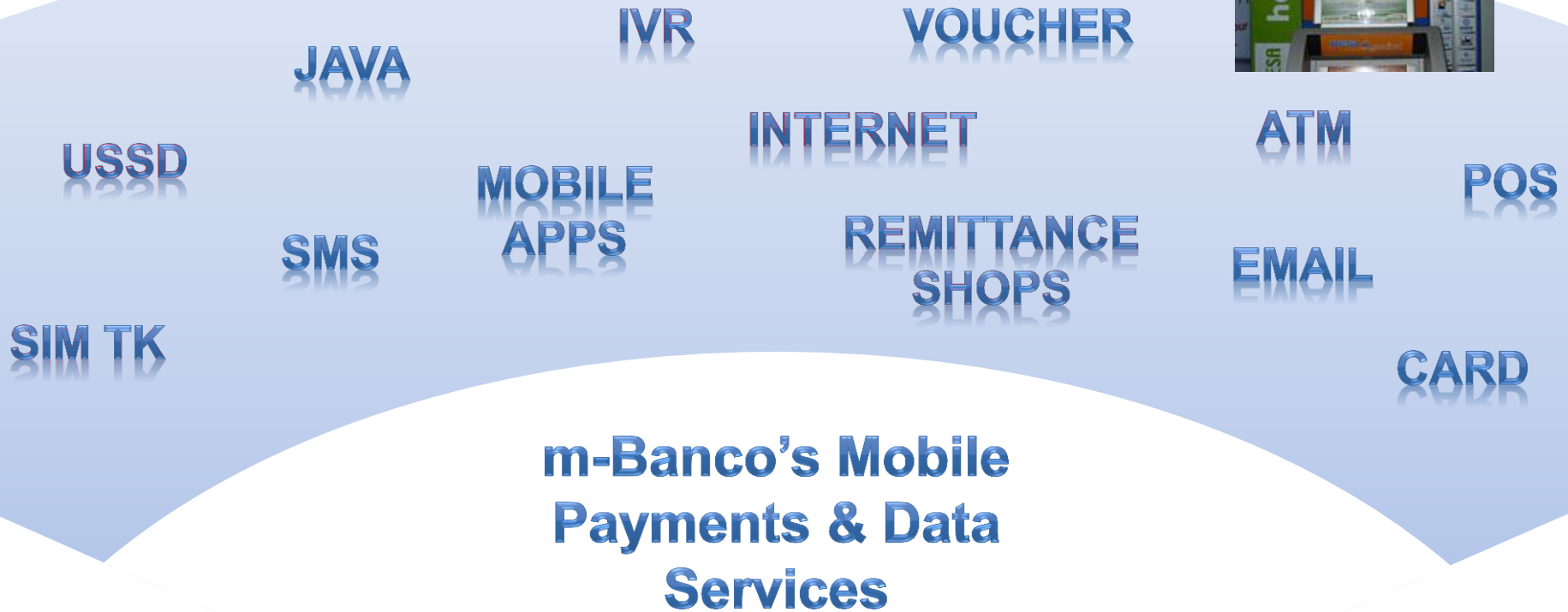
Benefits  
Identity  
Rural Officers  
Trade  
Health Services  
Education

## **NGO**

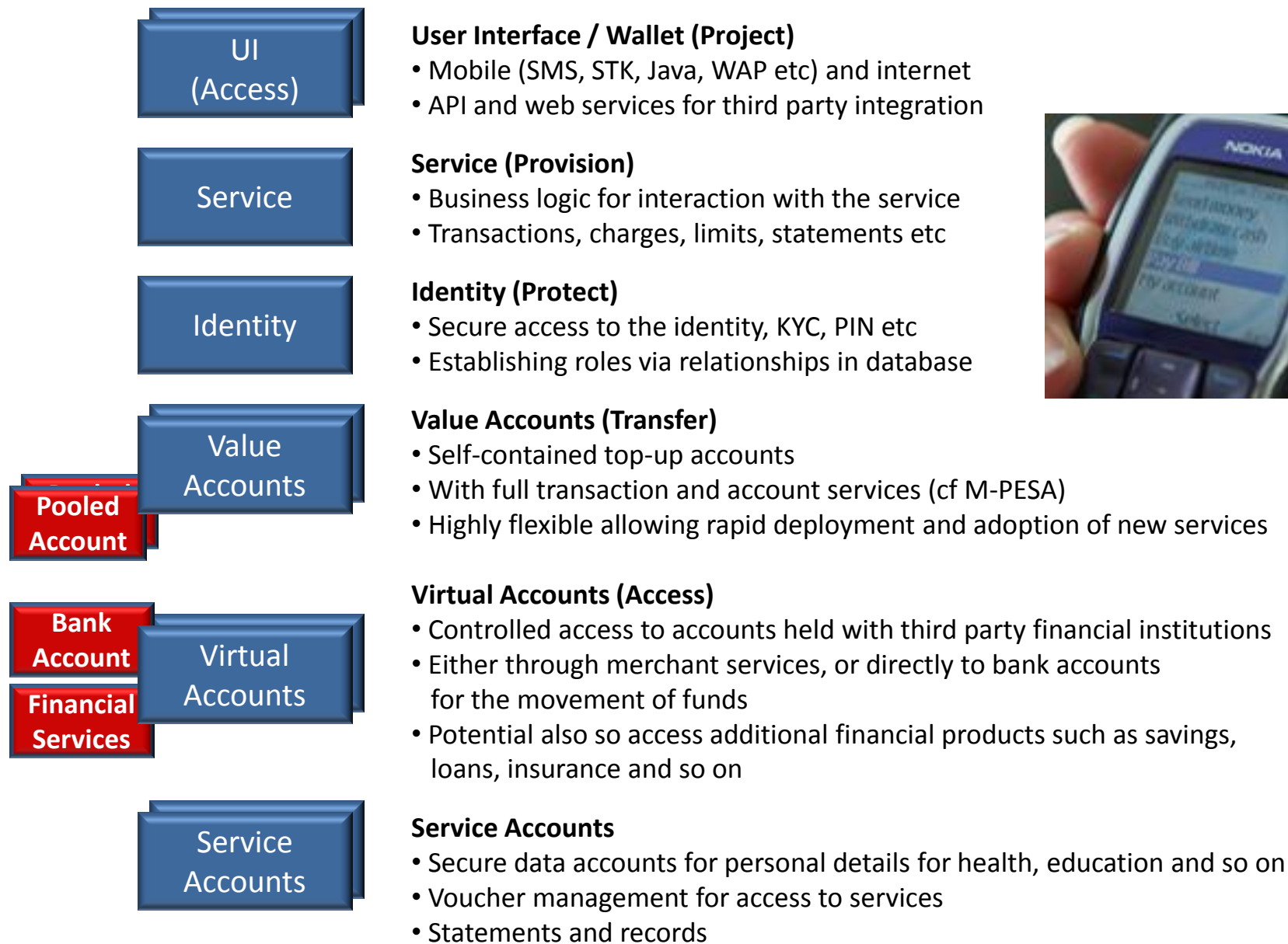
Ad Hoc Aid  
Targeted  
Vouchers  
Data  
Collection  
Rural Staff  
Services

**m-Banco's Mobile  
Payments & Data  
Services**

# Multiple Channels, more than mobile



# Identity to Service – Business Layers



# Adding to economic robustness ...

- Less than 1 year after launch, M-PESA was allowing people to stay in touch when everything else had stopped
- In the troubles in Kenya in 2007
  - 600,000 people displaced
  - and 1,500 died
- For 5 days
  - Shops were closed
  - No banks to get access to cash
  - No airtime resellers to top up pre-pay
- Safaricom continued to operate
  - M-PESA continued to allow the transfer of funds, safely
  - M-PESA was the only source of airtime
  - Via a built-in feature “Buy Airtime” on the phone’s M-PESA menu



The delay in vote results has sparked disorder on the streets



# Delivering Aid ... Concern Worldwide

- Following the troubles, some 300,000 people still displaced
  - Away from home, having lost everything
- Putting people into “Camps” is not the solution
  - 80% of people are still there 5 years later
- Delivering food aid by truck is not efficient
  - And often poorly targeted
  - And leads to a dependence culture
- Concern Worldwide piloted aid by M-PESA
  - Women in the family issued with SIMs
  - Ten families issued with a shared phone
  - Money disbursed weekly, to the women in small amounts
  - Agents provided all the cash management
- Aid got to those that needed it and in the way that they could best use it
  - Identity carefully controlled and targeted
  - More efficient disbursement of aid (\$ per calorie)
  - Led to establishment of local infrastructure, agents, shops and providers



The delay in vote results has sparked disorder on the streets